

Response After Final
Serial No. 09/050,113
Attorney Docket No. 980446

REMARKS

Claims 1 – 8, 12 and 14 – 34 are pending in the present application, of which claims 15 – 34 have been previously withdrawn from consideration. By this Amendment, claim 2 has been amended. No new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated October 6, 2005.

Allowable Claim Subject Matter:

Applicants gratefully acknowledge the indication in page 6 of the Office Action that claims 1, 4, 12 and 14 have been allowed.

35 U.S.C. §112 First Paragraph Rejection:

Claims 2, 3 and 5 – 8 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This rejection is respectfully traversed.

The Examiner states that the specification and drawing do not show that the sidewall insulation film is formed covering the sidewalls of the first insulation film. However, as shown in, e.g., FIG. 6B, the sidewall insulation film 32 covering the side walls of the conductor pattern 20 and the etching

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stopper film 22 is formed on the inner wall of the contact hole 30. As clearly shown in FIG. 53, the sidewall insulation film 32 is also formed covering the sidewalls of the first insulation film 28. Thus, claims 2, 3, and 5-8 satisfy the requirement of 35 U.S.C. §112, first paragraph. Accordingly, withdrawal of this rejection is respectfully requested.

35 U.S.C. §112, Second Paragraph Rejection:

Claims 2, 3 and 5-8 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

This rejection is respectfully traversed.

The Examiner states that the amended limitations are confusing because it is not understood how the sidewall insulation film could possibly be formed on a sidewall of the first insulation film if said insulation film does not extend over the etching stopper film.

According to the above-described amendment, it has become clear that the inner wall of the contact hole is defined by the first pair of sides and the second pair of sides, the first pair of sides is defined by the conductor patterns (see, e.g., FIG. 6B), and the second pair of sides is defined by the first insulation film (see FIG. 53). Thus, the claim rejection under 35 U.S.C. § 112 second paragraph should be withdrawn.

Claim Rejection Under 35 U.S.C. 103

Claims 2, 3, 7, and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hosotani et al. (U.S.P. 5,977,583) in view of Kimura (U.S.P. 6,127,734). Claims 5 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hosotani et al. in view of Kimura and Fukase (U.S.P. 5,728,596). Each of these rejections is respectfully traversed.

Claim 2 has a feature that the contact hole has the inner wall defined by the first pair of sides and the second pair of sides, the first pair of sides is defined by the conductor patterns, the second pair of sides is defined by the first insulation film, and the sidewall insulation film covers the side walls of the first insulation film (corresponding to the second pair of sides) and the side walls of the conductor pattern and the etching stopper film (corresponding to the first pair of sides). According to this feature of the present invention, the contact hole can be formed in self-alignment with the conductor patterns. When the first insulation film is not extending over the etching stopper film, the end of the contact hole is defined by the conductor pattern. Thus, the contact holes, which are adjacent to each other with the conductor pattern interposed therebetween, can be formed by the mask pattern having one opening and formed in self-alignment with the conductor patterns. Thus, according to the present invention, pattern size of the mask pattern and the alignment allowance for forming the contact holes can be greatly increased, whereby the fabrication process *can* be simple and the fabrication cost can be lowered.

The Examiner states that Hosotani et al. shows all of the elements of the claims except the first insulation film being in contact with the side walls of the conductor patterns and filling spaces between the conductor patterns. However, in Hosotani et al., the sidewall insulation film

21 is not formed on the side wall of the first insulation film 22 (see, e.g., FIG. 14). Hosotani et al. neither teaches nor suggests the sidewall insulation film formed on the side wall of the first insulation film. Kimura also neither teaches nor suggests the sidewall insulation film formed on the side wall of the first insulation film.

The above-described structural difference between the present invention and Hosotani et al. is based on the difference of the fabrication processes. In the present invention, the sidewall insulation film is formed after the formation of the contact hole. That is, in the present invention, the contact hole is formed in the first insulation film, and then the sidewall insulation film is formed on the side wall of the contact hole. On the other hand, in Hosotani et al., the sidewall insulation film is formed before the formation of the contact hole. That is, in Hosotani et al., the sidewall insulation film is formed on the side wall of the conductor pattern, then the first insulation film is formed, and then the contact hole is formed in the first insulation film with the sidewall insulation film as an etching mask. Thus, in Hosotani et al., the sidewall insulation film must be formed of the material having etching characteristics different from the first insulation film. On the other hand, in the present invention, the sidewall insulation film does not have such the restriction. In the present invention, the sidewall insulation film can be formed of, e.g., the silicon oxide film, whereby the specific effects, such as the improvement of the hot-carrier immunity of the transistor, etc. can be achieved.

As described above, Hosotani et al. and Kimura are clearly different from the present invention and do not provide any motivation for the claimed invention. Thus, the present

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invention would have been unobvious to one of ordinary skill in the art at the time the invention was made, even though Hosotani et al., Kimura and Fukase are combined.

In view of the aforementioned amendments and accompanying remarks, Applicant submits that that the claims, as herein amended, are in condition for allowance. Applicants requests such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petitions for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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